308 WATER SERVICE CONNECTIONS

308.01 DESCRIPTION

Where indicated in the contract, water service components to abutting properties shall be adjusted, replaced and/or maintained for water service connection piping 2-inches diameter and smaller, as needed to adapt water service connections to project requirements. Work includes water service trench excavation and fill per 207 and restoration of landscape features to original condition and sodding per 610.05.

Work shall be per this Section and the D.C. Plumbing Code and shall be performed by plumbers licensed in the District. In case of discrepancy between this section and the D.C. Plumbing Code, this Section governs.

308.02 SUBMITTALS

No submittals are required for this work.

308.03 MATERIALS

Size No. 57 or 67 Gravel - 804.06

Seamless Copper Water Tube - 809.05(E)

Copper-to-Copper Couplings - Per D.C. Plumbing Code

Copper-to-Non-Copper Couplings - Per D.C. Plumbing Code - 3/4 inch through 2 inch diameter

Meter Yokes - Per D.C. Plumbing Code

Reducers - Per D.C. Plumbing Code

Angle Meter Stops - Per D.C. Plumbing Code
Meter Valves - Per D.C. Plumbing Code

Curb Stops - Bronze alloy with body and key precision fitted and lapped as a pair for a precision seal, inverted key or solid tee-head style. Mueller Inverted Key or Tee-Head curb stops are acceptable or approved equivalent.

Curb Stop Boxes - Curb stop boxes shall be of the telescoping, two piece, screw style. The lower section shall consist of a full externally threaded shaft over a Buffalo style bell that is arched and flanged. The upper section shall consist of a full internally threaded shaft that fits over the lower section with a cast iron rim on top of the shaft accommodating a cast iron cover (lid) with "WATER" imprinted as specified.

Both the lower and upper section of the curb stop box shall be rigid acrylonitrile-butadiene-styrene (ABS) plastic, either injection molded or extruded per ASTM D1788, with test specimens molded by the injection process in accordance with Recommended Practice D1897.

The cast iron lid and rim shall be of the new standard Buffalo style design with standard pentagon head bolt and shall be interchangeable with the old style cast iron Buffalo boxes already in use.
The Series 250 Screw Type curb stop box made by Bingham & Taylor, Culpeper, Virginia is approved as an acceptable equivalent.

Meter Boxes - Meter boxes shall be of durable, high density polyethylene, molded with solid walls (containing no foam or corrugations) and shall not be less than 0.3 inch and the box shall have nominal

dimensions of 20 inches in diameter by 30 inches in depth. Other sizes may be used, if needed, for larger settings.

The polyethylene (PE) plastic material specified for the box shall be Type III or Type IV High Density polyethylene per ASTM D1248, with densities of 0.95 g/cc and above, as determined by the ASTM D1505 test method. The interior color of the box shall be white (natural) to aid in meter reading, but the exterior shall be black, compounded to improve strength and to protect against deterioration below ground. The low temperature brittleness shall be a maximum of -76°F per ASTM D746. The vertical crushing strength, which is a measure of the magnitude of static vertical pressure a meter can withstand, shall be 3000 lbs. minimum.

A meter box equivalent to MS 2030B, manufactured by Mid-States Plastics, Inc., Lexington, Kentucky, is acceptable.

Meter box frames and covers to be used in conjunction with the meter boxes specified above shall be cast iron, Type A made by Meter Box Covers, or approved equal, having 11 1/2 inch clear openings with a bronze pentagon nut (standard size) swaged to an iron locking worm gear. The meter box frames and covers shall be made of gray cast iron treated with a coal tar epoxy coating and the covers shall be labeled with a "WATER METER" imprint as specified. A meter box frame and cover equivalent to MBC Model M3A, manufactured by Meter Box Covers, Inc., Waldorf, Maryland, is acceptable.

308.04 CONSTRUCTION REQUIREMENTS

(A) NOTIFICATIONS. Property owners/tenants shall be notified at least 48 hours in advance of the Contractor's intent to work in their front yards in public space and the Contractor shall assure owners that disturbed property will be restored to its original condition, as shown in preconstruction photographs, upon completion of work.

(B) WORK ON PRIVATE PROPERTY. In general, most water service building connection work is in public space. The Contractor shall locate all existing water service piping and may be required to conduct some work on private property. The Contractor shall obtain written approval from property owners before disturbing any private property, and shall submit a copy of the approval to the Engineer. The Contractor shall make no claim for any time delay associated with obtaining permission to work on private property.

The District assumes no responsibility for any work or trespass on private property.

(C) MAINTAINING WATER SERVICE. Existing water service shall, in general, be kept in service until transfer connections are made. Existing water service will then be discontinued from the old water main, service pipe disconnected from the corporation cock on the old main by the Contractor or abandoned in place as directed, service pipe adjusted or replaced as specified herein and connected to the new main by the Contractor within the time limits specified herein.

The Contractor shall contact the Chief, Meter and Measurement Division, 673-6577 two (2) weeks prior to proposed scheduling of water service work. The Contractor shall coordinate his water service work with water main tap and any required meter relocation or new meter installation by the District.

No more than three separate shutoffs will be permitted for any single water service connection, and the duration of each shutoff shall not exceed two (2) hours, except in an emergency when the Engineer will grant a time extension. The Contractor shall give written notice to the Engineer, stating time and duration of proposed shutoff sufficiently in advance to provide for emergency water supply.

If the proposed shutoff time conflicts with essential consumer use, it shall be rescheduled to alleviate

interference. The Engineer will determine the action to be taken for essential consumer use requests.

Overtime, weekend and holiday work may be ordered by the Engineer to promptly complete temporary and/or permanent water service.

(D) WORK BY DISTRICT. The District (Water and Sewer Utility Administration, Bureau of Water Measurement and Billing) will furnish and install D.C. meters at no cost to the Contractor. For privately owned meters (2-inch and smaller diameter water service installed and owned by private parties), the District will either make the necessary adjustments or will make arrangements for the owner to do so. District work includes connecting the meter at couplings to the existing meter yoke or new meter yoke furnished and installed by the Contractor. The Contractor shall furnish and install pipe, couplings, meter housings, frame and cover and meter housing gravel foundation.

The District will make all new water service connection taps at the water main, and will make tap removals from old main where indicated at no cost to the Contractor.

Where any unmetered water service is encountered, meters will be installed in public space by the District.

Wherever an existing meter is located on private property or inside the building, the District will relocate said meter in public space.

(E) PRECONSTRUCTION PHOTOS. Two (2) preconstruction photographs shall be taken of each property where water service will be adjusted or replaced. These photographs are in addition to, and shall meet the same requirements of, 108.08. Views shall be taken as directed to show preconstruction existing conditions at each property within the area associated with the work.

(F) ADJUST WATER SERVICE PIPE. Work consists of adjusting water service connection pipe due to new water main work that affects water service.

If existing water service piping is copper, is not less than 3/4-inch diameter and enough slack exists in the piping, the existing piping shall be connected to the new main without replacing any piping.

However, if the Engineer determines that slack is insufficient or pipe cannot be bent by approved means to meet new corporation cock, adjustment under this subsection will not be feasible and a section of pipe shall be replaced per subsection (I) herein.

Work consists of trench excavation per 207, adjusting existing 3/4-inch through 2-inch diameter copper service pipe to bring pipe to the connection point at new corporation cock in main, making connection at tap, backfilling and compaction. Work includes excavation, backfill and compaction for District work at tap.

(G) ADJUST WATER SERVICE PIPING AT METER. Work consists of adjusting meter yokes and riser pipes, furnishing and installing extra copper riser pipe and meter yoke if existing units are less than 3/4-inch in diameter or are not copper, extra fittings, incidental work, and includes excavation, backfill and compaction per 207 and additional gravel to raise foundation.

(H) RESET WATER SERVICE PIPE. Work consists of disconnecting from the old main and connecting existing water service pipe to corporation cock on the new watermain; and also replacing water service pipe as needed for completing water service. Work includes trench excavation, furnishing and installing all needed pipe and fittings, installing gooseneck, making connections, backfilling and compaction and incidental work to restore full water service. Corporation cocks will be removed and the watermain taps will be plugged by the District at no cost to the Contractor.

(I) REPLACE WATER SERVICE PIPE. Work consists of replacing water service connection pipe in the vicinity of and/or due to new water main work and/or new sewer work.

If the existing water service piping is copper, is not less than 3/4-inch diameter, and insufficient slack exists in the existing piping to connect it directly to the new main, or else pipe cannot be bent by approved means to meet new corporation stop, the Contractor shall cut the pipe at a point behind the curbline as directed, install a new single section of same size copper pipe between the corporation stop (tap) and existing pipe, and connect new-to-existing water service pipe with a compression coupling.

However, if the point where existing pipe is to be cut is within five (5) feet of the meter, unless otherwise directed by the Chief, Meter and Measurement Division, the entire length between the new main and the meter shall be replaced with copper pipe not less than 1-inch diameter; pipe shall be continuous with no joints, couplings or fittings. Existing copper piping, if 3/4-inch minimum, between meter and property line shall remain. No curb stop will be required.

If the existing water service piping is not copper, or is copper pipe less than 3/4-inch diameter, the Contractor shall replace the water service piping (with a single section of copper pipe not less than 1-inch diameter with no joints, couplings or fittings) from the new main to the meter, and from the meter to:

(1) The property line, along with a curb stop and curb stop box at the property line, if there is no building projection (areaways, steps, porches, bay windows, etc.) into public space.

(2) The face of building projection, along with a curb stop and curb stop box close to the face of projection, when projection occupies public space.

Replacement piping shall be the same size as piping replaced except that all existing 3/4-inch or smaller non-copper piping shall be replaced with 1-inch copper piping.

In such case where the new copper pipe between main and meter will be 1-inch diameter but existing service between meter and dwelling is 3/4-inch copper pipe, the District will provide a new 1-inch meter, and the Contractor shall install a compression coupling and reducer between meter yoke and riser pipe to dwelling.

In such case where the new copper pipe between main and meter will be 1-inch diameter but existing service between meter and dwelling is lead or galvanized pipe, the District will provide a new 1-inch meter, and the Contractor shall install 1-inch copper pipe between meter and property line (or building projection) along with a curb stop, curb stop box and compression coupling and reducer at the property line.

Work consists of trench excavation per 207. and preparation of new meter pit subgrade and gravel foundation, tunneling where feasible under curb/gutter, copings, walks, etc., removal and disposal of old service pipe and fittings if needed and, otherwise, abandonment (crimp ends) of existing pipe in-place, removal of top section of curb cock and box if present and abandonment of lower portion, installing new pipe and new riser pipe, providing new meter yoke with meter stop or meter valves and couplings, connections at meter yoke, making connection at tap, backfilling and compaction, restoration of surface features including sodding per 610.05 and incidental work to restore water service.

A curb stop box shall be set plumb over the curb stop so that the stop is centered within box. Top section of box shall be rotated so that box cover will be flush with finished ground surface. Backfill shall be carefully placed to avoid disturbance of curb stop or curb stop box.

Work includes any excavation, backfill and compaction for District work at tap. Connection to existing service at property line will be included as part of curb stop and curb stop box work.

If the District determines that a meter requires relocation or a new meter is needed, the Contractor shall cut service pipe at a location as directed, provide new pipe, meter yoke and couplings and coordinate work with meter installation by the District. If meter and housing adjustments in-place are needed, the Contractor shall furnish and install new pipe and couplings.

Work consists of trench excavation per 207 and preparation of new meter pit subgrade and gravel foundation, new pipe and couplings as needed to meter yoke and to reconnect service in old meter location, providing new meter yoke with meter stop or meter valves and couplings, connecting meter yoke to service piping, backfill and compaction, restoration of surface features including sodding per 610.05 and incidental work to restore water service, after District installation of meter.

(J) REMOVE CAST IRON WATER VALVE BOX. Work consists of removing cast iron water valve boxes; the water valve shall remain as is. See 302 for new valve casing requirements. Work includes excavation, backfill and compaction to grade per 207. Boxes shall become Contractor property and be removed from the site.

(K) WATER SERVICE TEST HOLE. Work consists of excavating test holes of adequate size per 212 as directed to determine location, depth, condition, and other pertinent information about existing water service. Work includes backfill and compaction to grade per 207.

(L) METER TYPES. Private meters are those installed and maintained at consumer expense, in general supplying commercial and industrial users. A bypass valve is required as part of the meter setter in these installations.

District meters are all other meters furnished and installed without consumer expense by the Bureau of Water Measurement and Billing, Water and Sewer Utility Administration. They range in size from 5/8 inch through 2 inches in diameter.

The Bureau of Water Measurement and Billing will determine the ownership of all meters adjusted or reset.

(M) ADJUST WATER METER UNIT. Work consists of adjusting private and District meter housings, frames and covers to approved grade, and includes minor excavation, backfill and compaction, adjusting meter setters and riser pipes, furnishing and installing extra riser pipe, fittings, incidental work and disconnecting and reconnecting private meters at meter spuds if needed. The District will disconnect and reconnect District meters at meter spuds at no expense to the Contractor.

(N) ADJUST WATER METER FRAME. Work consists of adjusting private and District water meter frames to approved grade, including minor excavation, backfill and compaction.

(O) ADJUST CURB COCK BOX OR WATER VALVE BOX. Work consists of adjusting curb cock boxes and water valve boxes to approved grade, including minor excavation, backfill and compaction.

(P) RESET WATER METER UNIT. Work consists of removal and resetting private and District meter housings, frames and covers, meter setters, pipe risers, private meters and their bypass valves. The District will remove and reset District water meter spuds at no cost to the Contractor. Work also includes excavation, backfill and compaction, reconnections, furnishing and installing service pipe, fittings and incidental work to reconnect service pipe within pay limits as indicated on the plans. In the case of emergencies, and when approved, the Contractor may remove District meters.

Meter housings shall be properly supported on brick or other approved material and shall be set on stable soil. The meter housing shall be set so the meter cover will meet approved grade, with no allowance

for soil settlement. The meter housing shall not bear on water service pipe; a clearance of 2 inches in all directions shall be provided.

Private meters shall be connected to riser pipes with approved brass meter couplings. Private meters shall be provided with a bypass connection, a bypass valve and valves on the inlet and outlet sides of the meter per requirements of the Bureau of Water Measurement and Billing. Bypass connections and valves shall be the same diameter as the service pipe.

(Q) RESET CURB COCK UNIT OR WATER VALVE UNIT. Work consists of removal and resetting curb cock boxes or water valve boxes including needed curb cock and adapters, or water valve jointing and cutting of service pipe. Work also includes furnishing and installing new service pipe and fittings to reconnect the service pipe where the curb cock has been removed, plus incidental work.

Gate valve cocks are required for all service pipes larger than 1 1/4 inches in diameter.

(R) RESTORATION. Any items disturbed during construction including walls, fences, shrubs and lawns shall be restored by the Contractor upon completion of work. Grassed areas shall be resodded as part of work per 610.05.

308.05 MEASURE

The unit of measure for Adjust Water Service Pipe will be each. The unit of measure for Adjust Water Service Piping at Meter will be each.

The unit of measure for Reset Water Service Pipe will be each.
The unit of measure for Replace Water Service Pipe will be the linear foot.

The unit of measure for Furnish and Install Curb Stop/Curb Stop Box will be each.

The unit of measure for Furnish and Install Water Meter Box, Frame and Cover will be each.

The unit of measure for Remove Cast Iron Water Valve Box and Water Service Test Hole will be each.

The unit of measure for Adjust Water Meter Unit, Adjust Water Meter Frame and Adjust Curb Cock Box or Water Valve Box will be each.

The unit of measure for Reset Water Meter Unit and Reset Curb Cock Unit or Water Valve Unit will be each.

308.06 PAYMENT

Payment for Adjust Water Service Pipe and Adjust Water Service Piping at Meter will be made at the respective contract unit price per each, which payment will include excavation, if needed, adjusting service piping and connecting to new corporation stop in new main, backfill, compaction, and all labor, materials, tools, equipment and incidentals needed to complete work specified.

Payment for Reset Water Service Pipe will be made at the Contract unit price per each, which payment will include excavation, disconnecting from the old main, connecting to the new main including furnishing and installing pipe, fittings and appurtenances, backfill and compaction and all labor, materials, tools, equipment and incidentals needed to complete the work specified.

Payment for Replace Water Service Pipe will be made at the contract unit price per linear foot of pipe

in place complete, which payment will include photographs, excavation, allowance of two linear feet for meter yoke when needed, backfill and compaction including backfill for meter pits and service valve boxes, replacing service piping, connections at corporation stop in new main and at water meter, coordination with District installation of meters, property restoration and sodding (excluding temporary asphalt patching, which will be measured and paid separately), and all labor, materials, tools, equipment and incidentals needed to complete work specified. Payment will be based on pipe in place, whether in open cut or in tunnel.

Payment for Furnish and Install Curb Stop/Curb Stop Box will be made at the contract unit price per each combined unit complete in place, which payment will include connections and reducer as needed to connect to existing service at property line, adjustment of curb stop box, securing cover, leakage test, and all labor, materials, tools, equipment and incidentals needed to complete work specified. Trench excavation and backfill will be included in Replace Water Service Pipe work.

Payment for Furnish and Install Water Meter Box, Frame and Cover will be made at the Contract unit price per each, which payment will include furnishing and placing meter pit foundation gravel, furnishing and installing water meter boxes, frames and covers, coordination with District installation of meters and all labor, tools, materials, equipment and incidentals needed to complete the work specified. Property restoration and sodding shall also be included if required and there is no Adjust or Replace Water Service Pipe pay item.

Payment for Remove Cast Iron Water Valve Box and Water Service Test Hole will be made at the contract unit price per each, which payment will include excavation, backfill and compaction, and all labor, materials, tools, equipment and incidentals necessary to complete the work.

Payment for Adjust Water Meter Unit will be made at the Contract unit price per each, which payment will include excavation, adjusting meter setters including furnishing and installing extra riser pipe and fittings, disconnecting and reconnecting meters if required, backfill and compaction and all labor, materials, tools, equipment and incidentals needed to complete the specified work.

Payment for Adjust Water Meter Frame and Adjust Curb Cock Box or Water Valve Box will be made at the respective Contract unit price per each, which payment will include excavation, adjusting water meter frame or curb cock box or water valve box to approved grade, backfill and compaction and all labor, tools, materials, equipment and incidentals needed to complete the specified work.

Payment for Reset Water Meter Unit and Reset Curb Cock Unit or Water Valve Unit will be made at the respective Contract unit price per each, which payment will include excavation, removal and resetting the unit including furnishing and installing service pipe and fittings, backfill and compaction and all labor, tools, materials, equipment and incidentals needed to complete the specified work.